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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/679,524	10/06/2003	Thomas P. Lewis	A35966	3964

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EXAMINER	
APPIAH, CHARLES NANA	
ART UNIT	**PAPER NUMBER**
2617	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/679,524	Applicant(s) LEWIS ET AL.	
	Examiner Charles N. Appiah	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 4/20/06.
2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-22 is/are pending in the application.
  4a) Of the above claim(s) 17-20 is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) 1-16,21 and 22 is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☒ Claim(s) 17-20 are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  a)☐ All b)☐ Some * c)☐ None of:
    1.☐ Certified copies of the priority documents have been received.
    2.☐ Certified copies of the priority documents have been received in Application No. _____.
    3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
  * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
  Paper No(s)/Mail Date
4) ☐ Interview Summary (PTO-413)
  Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Group I, claims 1-16, 21 and 22 in the reply filed on April 20, 2006 is acknowledged. Claims 17-20 are thereby withdrawn from consideration.

Claim Rejections - 35 USC § 112

2. Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

On line 10 of claim 1, the recitation of the limitation "said wireless data communication system lacks prior antecedent basis in the claim.

Applicant recites the limitation "said first data communications channel" on line 11 of claim 1 and line 1 of claim 7; however, there is no prior antecedent basis for such a limitation in the claims. To expedite prosecution, examiner is considering "said data communications channel" as "said first selected channel"

With respect to claim 6, the recitation of the limitation "said first non-overlapping channel" lacks prior antecedent basis in the claim.

With respect to claim 9, the recitation of the limitation "said wireless local area data network" on line 5, "said wireless data communications system" on line 10 and "said first selected data communications channel" on line 11 lack prior antecedent bases in the claim.

Claim Objections

3. Claims 21 and 22 are objected to because of the following informalities:

With respect to claims 21 and 22 it appears that "using a only first selected" on line 2 should be changed to "using only a first selected" to correct an appropriate typographical error. Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 21-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Yee et al. (6,085,090).

Regarding claims 21-22 Yee discloses a mobile unit comprising: a radio unit (100), arranged to receive reference signals using only a first selected channel (GPS receiver 140), a processor having a database arranged to power up the radio unit at selected time intervals (power converter/controller periodically powers up the geo-location device to determine its position, col. 8, lines 41-44), generate data representing the received signal characteristics (position device being activated by activation signal provided by paging receiver, col.8, lines 28-35), determine location data by comparing the signal characteristic data to the database, store the location data (comparing of stored current position with the latest current position, col. 53-56) and thereafter power down the radio unit (power converter/controller causing the geo-location device to be powered down, col. 8, lines 52-63).

6. Claims 1, 2 , 9 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Kennedy, Jr. (6,952,158).

Regarding claims 1and 9, Kennedy discloses a method and system for locating mobile units with an area using a wireless local area network, comprising: providing reference signal transmitters at selected fixed locations within the area (reference signal transmitters 110-1, 110-2 ... 110-N), transmitting reference signals using the reference signal transmitters using a first selected channel (mobile reference transmitters each transmitting a unique reference signal capable of being received by mobile appliances 120-1, 120-2, 120-3, see col. 6, line 60 to col. 7, line 12), providing a computer (inherent in geo-location control system 138), having a database of relating signal characteristics of signals transmitted by the reference signal transmitters to location within the area (geo-location control system having first database 440 and second database 450 with the first database comprising a list of known reference signals, including the RF frequency, phase and amplitude information of the reference signals ....., see col. 9, lines 18-34), providing at least one access point (base station 134A), coupled to the computer and providing wireless data communications between the computer and at least one mobile unit in the area using one or more channels of the wireless network that are different from the first selected channel (see col. 9, lines 35-46), receiving a selected plurality of the reference signals at the one mobile unit, determining signal characteristics of the received reference signals and transmitting data representing the received reference signal characteristics to the computer via the at least one access point using one or more data communications channels (mobile appliance transmitting location information to antenna 132A which receives and sends location information via base station 134A to the MSC or directly to GCS 138, see col. 9, lines 35-46), and receiving the data representing reference signal characteristics at the computer and determining position of the mobile unit using the database (processor comparing the location information with the reference signal information in the first database in order to first determine the sub-area in which the mobile appliance to be geo-located is located, col. 9, line 48 to col. 10, line 9).

Regarding claims 2 and 10, Kennedy further discloses wherein providing a computer having a database comprises providing a database relating signal strength characteristics (amplitude) location within the area, and wherein determining signal characteristics for the received reference signals comprises determining received signal strength for the reference signals (see col. 9, lines 21-34).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 3-5 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kennedy, Jr. as applied to claims 1 and 9 above, and further in view of Tsutsumi et al. (US 2003/0186724).

Regarding claims 3 and 11 Kennedy further discloses wherein determining signal strength comprises determining RSSI value at least one mobile unit (measuring amplitude of the received reference signals (see col. 9, lines 6-11), but fails to explicitly disclose wherein the wireless local network is an IEEE Standard 802.11 network.

In an analogous filed of endeavor, Tsutsumi discloses a system for improving QoS of a wireless LAN and includes transmission control means for determining data transmission time on the basis of a time slot defined by IEEE 802.11 (see page 1, [0013], page 2, [0028-0030]).

It would therefore have been obvious to one of ordinary skill in the art to implement Kennedy's positioning system in a WLAN using IEEE Standard 802.11 protocol as taught by Tsutsumi in order to avoid degradation of QoS through reduced variation delay of data reception.

Regarding claims 4-5 and 12-13, Kennedy fails to explicitly disclose wherein the transmitting reference signals comprises periodically transmitting reference beacon signals at selected beacon intervals wherein the beacon intervals are selected to be different for each of the reference signal transmitters.

Tsutsumi discloses a base station for a WLAN that includes a base station that include means for transmitting beacon interval table periodically wherein the beacon interval table can be changed (see page 3, [0037-0040]).

It would therefore have been obvious to one of ordinary skill in the art to combine Tsutsumi's variable beacon interval table transmission capability with Kennedy's location system in order to ensure efficient transmission control.

9. Claims 6, 7 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kennedy, Jr. as applied to claims 1 and 9 above, and further in view of Chuah et al. (US 2005/0059396).

Regarding claims 6, 7,14 and 15, Kennedy fails to teach that the reference signals are transmitted in response to request signals transmitted by a mobile unit on a first non-overlapping channels and data communications channels are selected to be non-overlapping.

Chuah discloses a communication protocol for configuring gateways for communications over wireless local networks (see page 1, [00005-006]). Chuah teaches that under 802.11(b) standard a total of eleven channels are provided out of which only three are non-overlapping (see page 3, [0035], page 4, [000038]).

It would therefore have been obvious to one of ordinary skill in the art to combine Chuah's use of 802.11(b) protocols for WLAN communications with Kennedy's system in order to ensure the availability of non-overlapping channels for transmission priority signals such as signals for location monitoring or determination.

10. Claims 8 and 16 rejected under 35 U.S.C. 103(a) as being unpatentable over Kennedy, Jr. as applied to claims 1 and 9 above, and further in view of Well Known Prior Art (Official Notice).

Regarding claims 8 and 16, Kennedy fails to explicitly teach wherein the reference transmitters receive signals on the first selected channel and delay the reference signal transmissions if a signal is detected on the first selected channel .

However, examiner maintains that the concept of delaying transmission of non-priority data for priority data transmission is very well known in the art and as such Official notice is taken that it would have been obvious to one of ordinary skill in the art to ensure the delay of transmission of non essential data for the transmission of priority data in order to avoid interference and thus ensure accurate reception of desired location signals.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Shibuya (5,666,662) discloses a method for detecting the location of a mobile terminal.

Gray (US 2004/0203873) discloses a method for informing a WAN user of nearby WLAN access points by transmitting current position information of a mobile terminal.

Diener et al. (US 2004/012198) discloses a system for locating the source of unknown wireless radio signals.

Aljadeff et al. (6,968,194) discloses a system for synchronizing location finding measurements in a WLAN.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles N. Appiah whose telephone number is 571 272-7904. The examiner can normally be reached on M-F 7:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nick Corsaro can be reached on 571 272-7876. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CA

CHARLES APPIAH
PRIMARY EXAMINER